

# **PACKAGE WITH SNAP-LOCK LID**

## **BACKGROUND OF THE INVENTION**

### **1. Field of the Invention**

The present invention relates generally to clear, two-piece plastic packages for small articles.

### **2. Description of the Prior Art**

It has become popular to package small articles in clear plastic packages, which has the advantage of securing the articles against pilferage while displaying them in an aesthetically pleasing way for inspection by potential buyers. Nonetheless there remains a need for improvements in several aspects of such packages. For example there is a need for packages that present a greater resistance to those who would pilfer, tamper with, or otherwise break into a package and remove its contents.

## **SUMMARY OF THE INVENTION**

In view of the foregoing, it is a general object of the present invention to provide an improved two-piece clear plastic package that has an increased level of security against pilferage and tampering.

Another, more specific object is to provide such a package that has novel features that make it resistant to pilferage by prying open the lid from the bottom of the package.

Another object is to provide a package that has a lid that can be snapped into locking engagement with a bottom.

A further object is to provide such a package with a tongue and cooperating groove, and whereby it is difficult to access the co-joined tongue and groove portions of the package to pry one part from the other.

These and other objects and advantages are provided by the present invention of a package having a lid and a bottom, the lid having bifurcated vertical sidewalls that surround a generally flat cover wall. Extending along the outer perimeter of the sidewalls is a first shaped connecting portion and a skirt that extends downwardly from the outer edge of that portion, with a longitudinally extending indent along the upper part of the skirt.

In a preferred embodiment the flat cover wall of the lid is molded with at least one upwardly extending recess for receiving an article of commerce.

The package bottom piece has a bifurcated vertical wall that surrounds a flat horizontal bottom wall, and in a preferred embodiment the bottom wall has at least one downward recess for receiving an article of commerce. Extending along the perimeter of the sidewall is a second shaped connecting portion, and along the outer edge of the second connecting portion there is an outwardly projecting locking edge.

The sidewalls of the lid and the bottom can be resiliently disposed relative to each other, to allow the bottom locking edge to snap into holding engagement with the indent of the lid skirt. whereby the lid cover wall will lie generally flush against the flat bottom wall, the cavities cooperating to form an article-carrying enclosure or enclosures

In one preferred embodiment the first shaped connecting portion is a female portion comprising a downwardly facing groove, and the second shaped portion is a complementary bowed portion.

In a variant of the invention the skirt indent comprises a number of horizontal slots and the bottom locking edge comprises tabs engageable in the slots.

The package lid and bottom have rectangular configurations, however the invention includes variants in which the lid and bottom are circular.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is an exploded perspective view showing a preferred embodiment of a package according to the present invention;

FIG. 2 is a an enlarged partial sectional view of the lid taken along the line 2-2 of FIG. 1;

FIG. 3 is a partial enlarged sectional view of the package bottom, taken along the line 3-3 of FIG. 1;

FIG. 4 is a perspective view of an assembled package according to the present invention;

FIG. 5 is an enlarged, partial sectional view taken along the line 5-5 of FIG. 4;

FIG. 6 is a perspective view of a variant of the invention; and

FIG. 7 is a sectional view taken along the line 7-7 of FIG. 6.

### **DETAILED DESCRIPTION OF THE INVENTION**

Referring now to the drawings, FIG. 1 shows that a preferred embodiment of a package 11 according to the present invention includes generally rectangular lid 13 and bottom 15 that are formed in clear plastic according to conventional plastic molding techniques. The lid 13 has opposing double-walled sidewalls 17 and 19 that bound a main horizontal cover wall 21 that has an upwardly projecting portion 23 that is shaped to receive at least a portion of an article of commerce such as product A, for example, in a manner to be described. It should be appreciated that portion 23 can have various configurations according to the shape of the product or products to be packaged.

As FIG. 1 further shows, the lid 13 features a connecting portion 24 that extends along the perimeter of walls 17 and 19, and a skirt portion 25 extends downwardly from connecting portion 24. Note that the skirt portion 25 has a number of spaced-apart slots 31. FIG. 2 best shows the positioning of slots 31, and how connecting portion 24 provides a groove 27. FIGS. 1 and 3 show that the bottom 15 has opposing pairs of doubled-walled sidewalls 47 and 49 respectively, and a main horizontal wall 51 in which is formed a product-receiving cavity 53 that complements the afore-mentioned cavity 23 in the lid 13.

FIGS. 1 and 3 further show that the perimeter portion of bottom 15 features a convex tongue 57, and a number of spaced-apart locking tabs 61.

It should be appreciated that the bifurcated V-shape of lid and bottom walls 17 and 47 allow a limited amount of resilient lateral flexing of the outer edge portions of these walls.

The afore-described lid 13 and bottom 15 can be easily and quickly snapped together to secure an article in package 11 in the following manner. When lid 13 is aligned above bottom 15 as depicted in FIG. 1, it can be pushed downwards and manipulated so that the inside surface 71 of skirt 25, shown in FIG. 2, slidably and resiliently engages the outer edge 73 of the tabs 61, best shown in FIG. 3. When the tab ends 73 reach the slots 31 they will snap in the slots 31, and the outer surface of tongue 57 will be embraced by the lid's perimeter groove 27.

Accordingly, FIG. 4 shows the assembled package 11, and FIG. 5 best illustrates how the locking tabs 61 secure the lid 13 to bottom 15. For maximum security a UV-activated liquid adhesive, such as sold as "SimplSealant", available from PartnerPak Inc. of Huntington Beach California, can be applied to the tongue 57 prior to snapping the lid in place. The package can then be illuminated in a UV light chamber for immediate curing. It should be appreciated how the downwardly projecting lip 25, and the locking tab engagement, make it difficult for the

potential pilferer to gain access to the interconnected portions of the package for prying them apart.

A variant of the invention is shown in FIG. 6 as package 111 that has a lid 113 and a bottom 115. Lid 113 has a construction like the afore-described lid 13 except as FIG. 7 shows, it has a lip 125 that is provided with an indent 131 adjacent to a bead 132 (instead of slots 31 as in lid 13), and the bottom 115 has a locking edge 161 that is received within the indent 131.

FIG. 8 illustrates another variant of the invention that features a generally circular package 211 that has a lid 213 and a bottom 215. A sectional view (not shown) taken along the line 9-9 of FIG. 8 will reveal a view substantially identical to the enlarged sectional view of FIG. 5. It will be appreciated how another circular variant of the invention (not shown) will have a vertical sectional view through its walls substantially identical to the view of FIG. 7.

Further variants of the invention (not shown), include packages that are generally circular. In one circular variant a sectional view shows a construction substantially identical to the view of FIG. 5, and another circular variant has a sectional view substantially identical to that shown above in FIG. 7.

While a few particular embodiments of the invention have been shown, it is not intended that the invention be limited thereto. Various modifications and variations of the invention will be evident to persons of ordinary skill in the art, given the benefit of this disclosure, and it is intended that the invention be given its full scope and breath as defined in the claims that follow.